



AMENDMENT UNDER 37 C.F.R. §1.111  
U.S. Application No. 10/521,236

Q82579

**AMENDMENTS TO THE SPECIFICATION**

**Please replace the paragraph beginning on page 9, line 12 with the following amended paragraph:**

First, using the pulse light generating device 11 and the first polarizer 12a, linearly polarized pulse light is generated. This light is then input into the optical fiber 2 via the optical circulator 13. The incident pulse light that has been input into the optical fiber 2 is partly scattered backwards by Rayleigh scattering as the incident light is propagated along the optical fiber 2, and backscattered light is returned to the measuring apparatus 1. Using the second polarizer ~~2b~~12b, linearly polarized light having a predetermined plane of polarization is separated from the backscattered light. Next, the light intensity is detected as time series data starting from the generation of pulse light by the photodetector 14.

**Please replace the paragraph beginning on page 14, line 18 with the following amended paragraph:**

In the fourth example of the measuring apparatus 1 shown in FIG. 7, an optical amplifier 30 that amplifies incident pulse light is placed between the OTDR 3 and the polarizer 12 of the measuring apparatus 1 shown in FIG. 3. The optical amplifier 30 is formed by an optical amplifier 31, two circulators 32, and a detour transmission path 33. The circulation direction of the circulators 32 is such that incident pulse light is propagated on the optical amplifier 31 side and backscattered light is propagated on the detour transmission path 33 side. As a result, because only the incident pulse light has been amplified, and because the linear polarized component of the backscattered light is incident without amplification into the OTDR 3 after it

has been separated ~~into linear polarized~~ from the backscattered light by the polarizer 12, measurement over an even longer distance is possible. Moreover, because the respective components are not special components and commercialized components can be used for any or all of them, costs can be reduced.